The Chronicle

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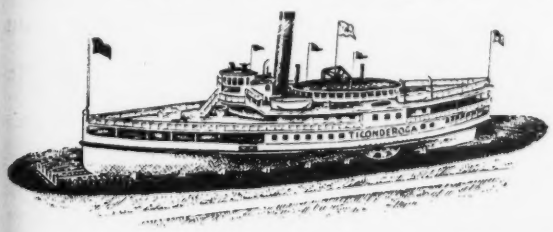
A RETURN TO SHELBURNE

By The Staff Of The Shelburne Museum

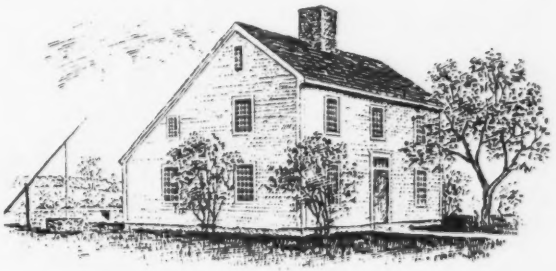
The members of the EAIA will hold their spring meeting at the Shelburne Museum, Shelburne, Vermont, June 17, 18, and 19. Many of our members will recall the pleasant meeting we had there in June of 1953 when the historic Sidwheeler Ticonderoga was still plying the waters of Lake Champlain. Old "Ti" is now retired and resting at the dock within the grounds of the Museum, two miles inland from the Lake. Aboard her, a film is shown twice daily of her historic overland voyage to her final resting place.

This location of the "Ti" change is but one of the many additions of unusual and outstanding structures and exhibits that the Founders of the Museum has made available to the public. "People made history, people are history, everything that people have and everything they do is history." The Shelburne Museum is dedicated to the Preservation of history, and its President has created with dignity and taste the setting and atmosphere in which the history of the New England area is presented.



A few miles south of Burlington, among the green hills of Vermont, the new Shelburne Museum, founded by Mr. and Mrs. J. Watson Webb, is forging still another fascinating chapter in the story of America — one which depicts the early life in Vermont and New England.

The buildings have that spare beauty characteristic of the arts and crafts of pioneers, who chose a rugged climate and uncompromising terrain. But buildings do not in themselves make a museum; the varied and tastefully arranged collections are equally rewarding to the visitor. Indeed, Shelburne has been called essentially "'a collection of collections," both of fine old New England buildings and centuries of varied treasures which they contain. From the standpoint of its variety the Museum is most appealing.



Leaving the highway (U.S. Route 7 in the town of Shelburne, Vt.) near a 168-foot double-lane covered bridge, which was brought all the way from Cambridge [illegible] miles away, is to go back over a century in our history. Here is early Vermont with its dignified Charlotte Meeting House, completely furnished with altar, pews, prayer books and stoves from the Miltonboro Church; its Stagecoach Inn, its brick schoolhouse, its weathered dwelling of stone and wood, its carriage barns and sheds. Gems of early architecture, most of these buildings were dismantled miles from Shelburne and re-erected timber by timber, brick by brick, and stone by stone on the Museum grounds. The buildings are filled with colorful displays, fascinating to old and young alike. Remember the cigar store Indians who stood guard on the main streets of America? They are to be found in every variety in the Shelburne Museum's collection of American folk art.

A century ago the busy hands of native woodcarvers and blacksmiths fashioned a miscellany of objects that eventually became recognized as works of art: weathervanes such as this dolphin, trade signs that hung above many a shop door, eagles and carousel figures of every subject and description, such as this prancing horse, one of a complete set of 40 animals. In the collection of 350

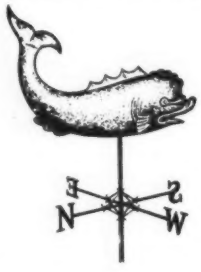
pieces of sculptural folk art within the Stagecoach Inn, are the figure-heads which were the pride of early ships' masters and their crews.

North of the covered bridge is the old Vergennes School, displaying various old desks, books and drawings which were done in the early 1800's. Next to the school is the Variety Unit whose top floor is given over to dolls and doll houses of many periods. The ground floor contains rooms with a large collection of pewter, china and glass.

Children will enjoy the mechanical wonders of the toy shop adjoining the Variety Unit.

Men and women will want to see the Shaker Building with its harness and other shops, its variety of farm implements, and its collection of over 2000 tools of the many trades of a century ago — not to mention its curious assortment of household aids such as this early coffee roaster.

The ladies will linger at the Hat and Fragrance Rooms where fancy bonnets are appealingly shown along with a collection of old hat boxes. Here is displayed a collection of over 300 quilts and rugs of rare and indescribable beauty against a background of pine panelling made of old fence pickets and quarter-sawed maple.



There is a Horseshoe Barn whose hand hewn timbers some 60 feet in length were taken from eleven old Vermont barns and two grist mills. It contains a collection of over 200 coaches, sleighs, carriages, wagons and early fire-fighting equipment.

You will not want to miss the General Store with its thousand and one curious objects for sale when grandpa was a boy, and the newly added Apothecary Shop (ca. 1860).

There is the Vermont House, the very historic Dutton House, the little stone Cottage, and the Sawyer's Cabin, each furnished as a dwelling in its respective period. Then there is the Dorset House with over a thousand decoys in the Barber, Moeller and Webb collections, and the Stencil House with its stenciled wall boarding believed to be unique. Finally, there is the Prentis House with its distinguished furnishings, the Blacksmith and Wheelwright's Shop, the Riddell Barn with its diamond bracing, and the Castleton Jail, constructed entirely of Vermont slate.

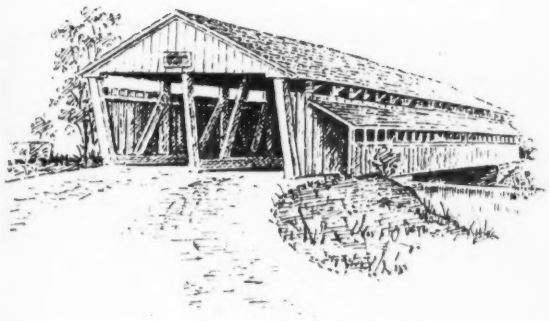
Old "220", the last 10 wheel steam locomotive on the Central Vermont Railroad, and the famous 220 ft. sidewheel steamer TICONDEROGA.

These two outstanding examples of the steam age are added at Shelburne to the other memorabilia of a by-gone era.

Tentative Program

Friday — June 17th

9:00 A.M. - 5:00 P.M.	Registration - Country Store, 2nd floor
9:00 A.M. - 5:00 P.M.	Individual visits to the Shelburne Museum buildings
10:30 A.M. - 11:00 A.M.	Showing of Ti Film "Last Voyage" - aboard Ti
11:00 A.M. - 11:30 A.M.	Showing of Film "Green Mt. Legacy" - aboard Ti
12:00 Noon - 1:00 P.M.	Luncheon - Members on their own
1:00 P.M. - 4:00 P.M.	Weaving demonstration - Carpet Loom At Red Shed
1:00 P.M.	"Whatsit" room open, place to be announced
2:00 P.M. - 3:00 P.M.	Meeting of Publication Committee, Meeting House
2:30 P.M. - 3:00 P.M.	Showing of Film "Green Mt. Legacy" - aboard Ti
3:00 P.M. - 3:30 P.M.	Showing of Ti Film "Last Voyage" - aboard Ti
3:00 P.M. - 4:30 P.M.	Visit with author of Museum collections - Quilts and Hat Boxes - in Hat & Fragrance Unit
3:00 P.M. - 5:00 P.M.	Board of Directors Meeting - Meeting House
5:30 P.M. - 6:30 P.M.	Cocktails - Brick House, Mrs. J. Watson Webb, Host
7:00 P.M.	Buffet Dinner-Shelburne Inn, Shelburne Point



Saturday - June 18th

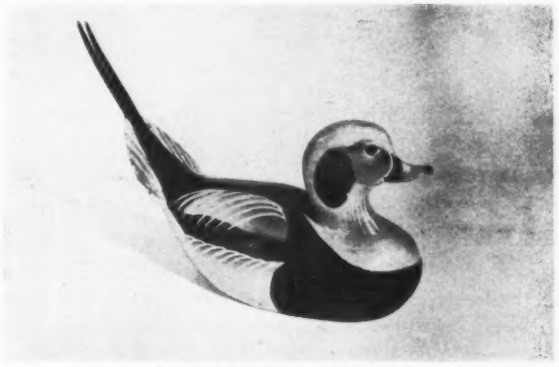
9:00 A.M. - 12:00 Noon	Registration - Information Building #1
9:00 A.M. - 5:00 P.M.	Individual visits to the Shelburne Museum buildings
9:30 A.M. - 10:00 A.M.	Showing of Film on early Carpentry - aboard Ti
10:00 A.M. - 11:00 A.M.	Blacksmith Shop Tools with Frank Wildung
10:30 A.M. - 11:00 A.M.	Showing of Ti Film "Last Voyage" - aboard Ti
11:00 A.M. - 11:30 A.M.	Showing of Film "Green Mt. Legacy" - aboard Ti
12:00 Noon	Buffet Lunch-Shelburne Inn, Shelburne Point
1:00 P.M. - 2:00 P.M.	Pill rolling (making)-Apothecary Shop
1:00 P.M. - 4:00 P.M.	Weaving demonstration - Carpet Loom at Red Shed
2:00 P.M. - 3:00 P.M.	Inspection of tool collection, with Frank Wildung-Shaker Horsestand Shed
2:00 P.M. - 5:00 P.M.	Quilting
3:00 P.M. - 3:30 P.M.	Showing of Ti Film "Last Voyage" - aboard Ti
6:30 P.M.	Ye Olde Board - Dinner Guest Speaker, Dr. D. C. Jarvis, Folk Medicine

Sunday - June 19th

9:00 A.M. - 5:00 P.M.	Individual visits to the Shelburne Museum buildings
9:00 A.M. - 12:00 Noon	"Whatsit" Session
10:30 A.M. - 11:00 A.M.	Showing of Ti Film "Last Voyage" - aboard Ti

WHEELRIGHT AT WORK

A Museum guide demonstrates how each spoke is set to the proper angle to insure appropriate dish of the wheel. Photo is from forthcoming book, TOOLS OF THE BLACKSMITH AND WHEELWRIGHT SHOP at SHELBURNE MUSEUM by Frank H. Wildung and Bradley Smith. Mr. Wildung will explain the use of these tools.



EXHIBITION DECOY

CONESTOGA WAGON

Members will find this early freight wagon a timely attraction since the E.A.I.A. is currently engaged in preparing a history of the Conestoga Wagon. This vehicle was built about 1873 in Chester County, Pa., by A. Griffith with blacksmith work by Peter Griley.

KEY TO MAP OF SHELBURNE MUSEUM

1. INFORMATION BUILDINGS . . . Starting point, general information. Museum model.

2. GENERAL STORE (ca. 1840) . . . Old-time country store, dry goods, drug and candy counters, hardware, food & groceries, with barber shop, post office, tap room, and Apothecary Shop (ca. 1860).

*3. TUCKAWAY'S BARN (ca. 1935) . . . Gift Shop & Snack Bar.

4. BLACKSMITH & WHEELWRIGHT SHOP (ca. 1840) . . . Forge, tools & shoeing frame.

*5. CHARLOTTE MEETING HOUSE (ca.1840) . . . Pulpit, choir stalls, pews, organ & hymnals. Trompe l'oeil panels.

6. MEETING HOUSE SHED . . . Horse-drawn vehicles & ox sling.

7. VERMONT HOUSE (ca. 1790) . . . Furnished as a retired sea captain's home. American Queen Anne & Chippendale furniture. French scenic wallpaper.

8. HORSESHOE BARN . . . Carriages, coaches & sleighs. Harnesses & saddles, polo trophies.

9. HORSESHOE BARN ANNEX . . . Conestoga wagon, fire fighting equipment, delivery wagons and sleighs.

10. LIVE BEE EXHIBITS . . . Set up & maintained by the Vermont Beekeeper's Association.

11. RED SHED . . . Storage for wagons and farm equipment.

12. WEAVING DISPLAY . . . Famous Jacquard loom & examples of home weaving.

13. SHAKER HORSESTAND SHED (ca. 1834) . . . Woodworking tools, household utensils, shoe and harnessmaker's shops, farm implements, lighting devices, Shaker items, carriages & wagons.

14. CASTLETON JAIL (ca. 1890) . . . Cells, stocks & pillory. Jailer's living quarters.

15. HAT & FRAGRANCE UNIT . . . Hat boxes, bonnets, handmade quilts & coverlets, shell dolls, doll houses, vitrines, samplers, wallpaper & hooked rugs.

16. LITTLE STONE COTTAGE (1840) . . . Small farm home with butter & cheese-making utensils in cellar.

*17 TOY SHOP . . . Early transportation toys - fire engines, streetcars, boats, mechanical toys, penny banks & music boxes. Modern American Flyer in operation.

18. VARIETY UNIT (ca. 1835) . . . Pewter, glass, ceramics, dolls & doll houses. Toby jugs & lustre pitchers. Mull & snuff boxes.

19. VERGENNES SCHOOL (1830) . . . Early classroom, maps, copy books and pen & ink drawings.

*20. STAGECOACH INN (ca 1783) . . . Folk art — cigar store Indians, figureheads, eagles, trade signs, weather vanes & circus figures.

21. COVERED BRIDGE (ca 1845) . . . Only double-lane covered bridge with footpath in Vermont.

22. DORSET HOUSE (ca. 1840) . . . Over 1000 decoys, Audubon game bird prints & Joel Barber watercolors. Early fouling pieces.

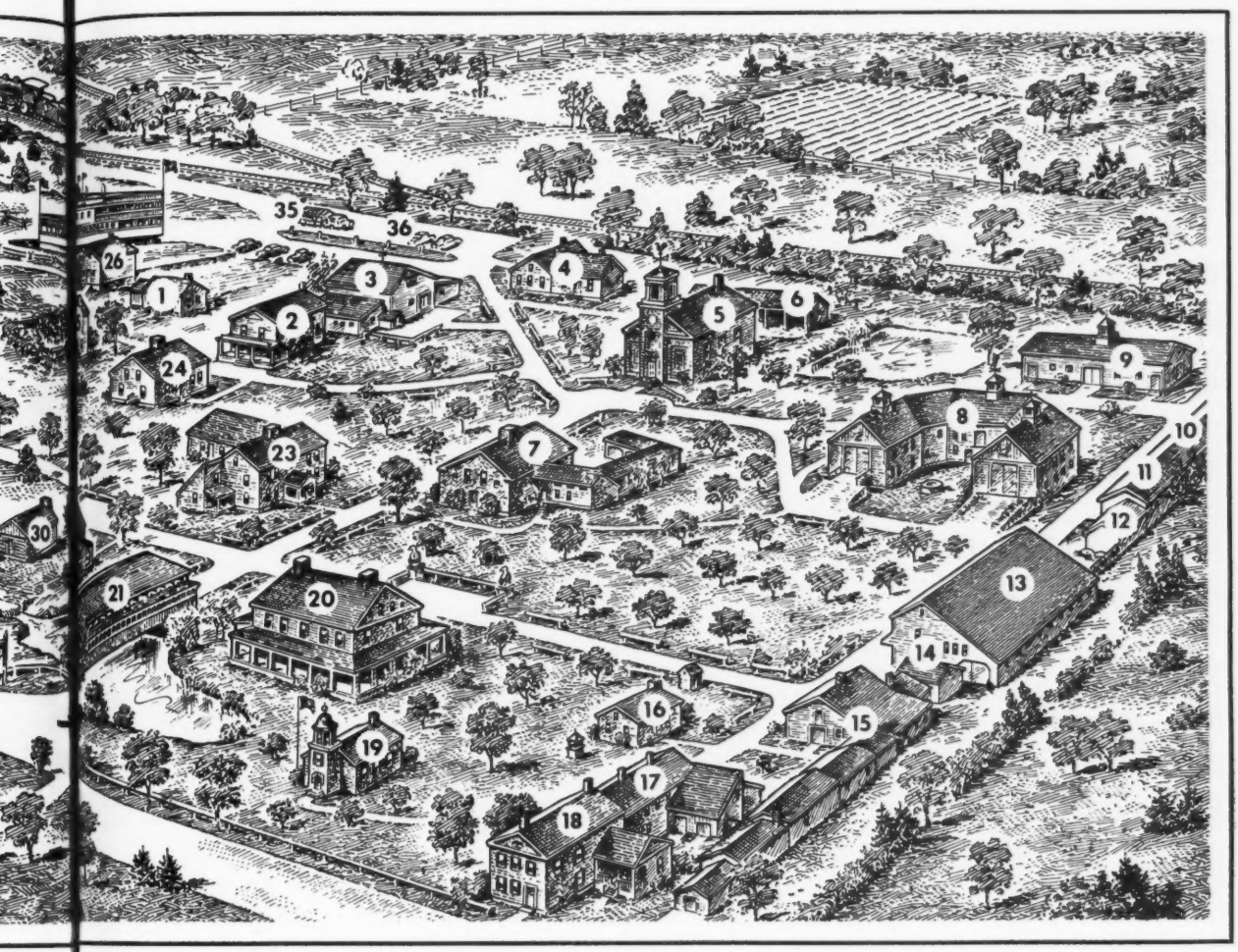
23. DUTTON HOUSE (ca. 1782) . . . Traditional 17th & 18th century furniture & furnishings. Stenciled bordered walls.

24. STENCIL HOUSE (ca. 1800) . . . Unusual wooden walls. 18th & 19th century furniture & furnishings.

25. PRENTIS HOUSE (ca. 1733) . . . Salt box. 17th & 18th century furniture & furnishings.

†26. RIDDELL BARN (ca. 1800) . . . Display of over 5,000 patterns for brass & bronze castings.

27. COLCHESTER REEF LIGHTHOUSE (1871) . . . Bard steamboat paintings. Whaling & clipper ship prints. Marine flags & ship figureheads.



†28. WEBB GALLERY . . . 18th & 19th century American primitive and academic paintings.

29. UP-AND-DOWN SAWMILL . . . Up-and-down saw, shingle-making machine, surface planer & wood-splitter.

30. SAWYER'S CABIN (ca. 1800) . . . Built of squared logs. Furnished.

*31. SIDEWHEELER TICONDEROGA (1906) . . . Last vertical beam passenger & freight steamer in the United States.

32. STEAM LOCOMOTIVE #220 (1914) . . . 10 wheel engine, combination baggage & passenger car and caboose.

†33. SHELBURNE DEPOT (1890) . . . Local station. Victorian architecture.

†34. BEACH HUNTING LODGE . . . Made of virgin timber with North American trophies & Carl Rungius' paintings, surrounded by an arboretum of native Vermont trees.

35. MUSEUM BARGE . . . Free transportation around grounds.

36. PARKING AREA

37. OVERFLOW PARKING AREA

38. ADMINISTRATION BUILDING . . . Director, public relations & research offices.

* Indicates Rest Rooms

† Indicates Building Unfinished

THE FALL MEETING

The fall meeting of the Early American Industries Association will be held at Cooperstown, New York with the New York State Historical Society and the Farmer's Museum as the host organization. We have received word that Mr. James Dodge, Innkeeper for the Treadway hostelries in Cooperstown which include the Cooper Inn and the Hotel Otesaga, has consented to serve as the general reservation manager for the meeting. The Hotel Otesaga will be considered the headquarters for the meeting but reservations will be available at the Cooper Inn. If members desire, accommodations are possible in tourist homes in Cooperstown.

THE PLOW

By David Briggs Maxfield

Of all the early wooden planes the Plow gives the appearance of being the most complicated while in actuality it performs one of the simplest but most important tasks. In checking a definition of the term "Plow" I have found the following offered: "an implement to cut a groove in, as in a plank, or the edge of a board; esp., to make a plow (a rectangular groove to receive the end of

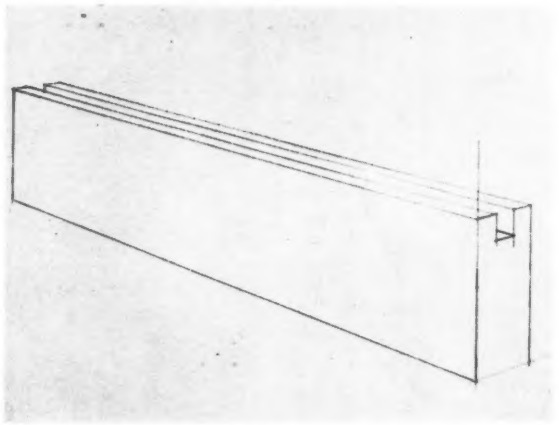


Figure 1.

a shaft, the edge of a panel, etc)"; In checking the term "Plowing" the definition was as follows: "to cut with a plow, act of one who plows; also, the result, as a furrow or groove."

From these definitions it is apparent that the plow cut is described as a "rectangular groove." All plows I have seen, whether early or late were made to cut a rectangular groove. (See Figure #1). The so-called complicated appearance of the plow was necessary to simplify the necessity of easily and quickly changing the adjustment to accurately control width, depth and the location of its rectangular groove cut.

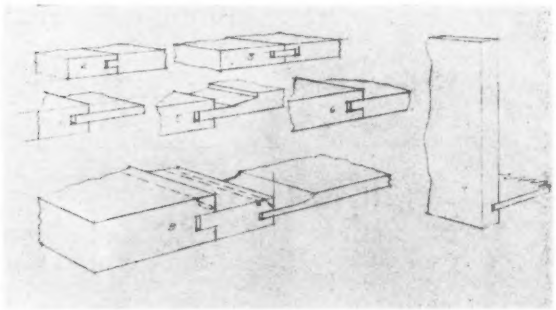


Figure 2.

Naturally the earlier plows were simpler in appearance but were also much harder to adjust. The author has discovered how they can try one's patience before accurate adjustment is accomplished. The plow as it appeared toward the end of its development was most complicated in appearance, but actually a delight to use because of ease of adjustments. Very quick, accurate and stable adjustments were built into the tool.

Figure #2 indicates a few uses of the Plow Plane in forming joints in woodworking of furniture, buildings and numerous other applications.

1. Plowed groove in edge of a board. See Figure #1 above.
2. Plowed board used as a grooved board, in tongue and grooved jointing of boards.
3. Two boards joined with grooved edges and use of a spline.
4. Flat panel inserted in grooved style.
5. Raised panel inserted in grooved style.
6. Panel inserted in grooved style, one side flush with style and other side recessed. (Panel rabbitted at edge).
7. Grooved edge of drawer with bottom of drawer inserted.
8. Possible combination of plowed styles and a rabbitted style used together. Dotted lines indicate where molding planes could be used to cut moldings in this combination.

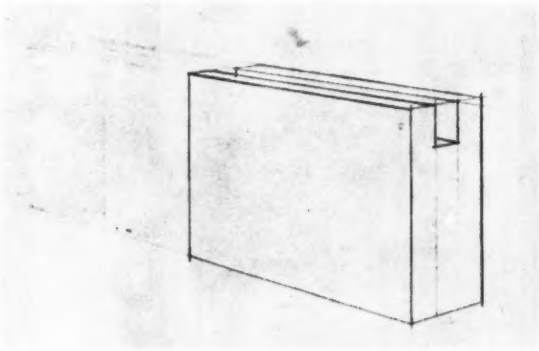


Figure 3. Plowed board.

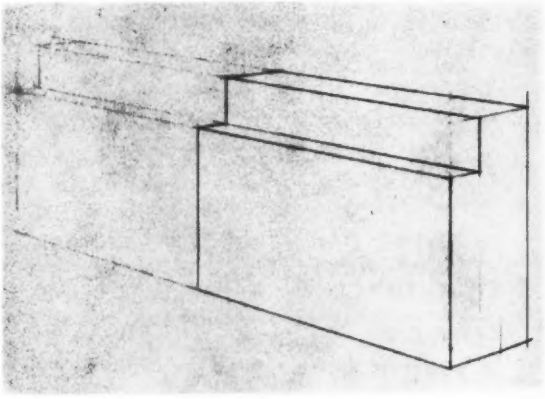


Figure 3. Rabbitted board.

In discussing the plow it is essential to understand the difference between a plowed and a rabbitted board. In both instances wood is removed from a board in the form of a rectangular groove. The proportions of the rectangular cut may vary as the need exists. In plowing, the rectangular groove is cut out from one face of the board, while in rabbitting, the rectangular shape is cut

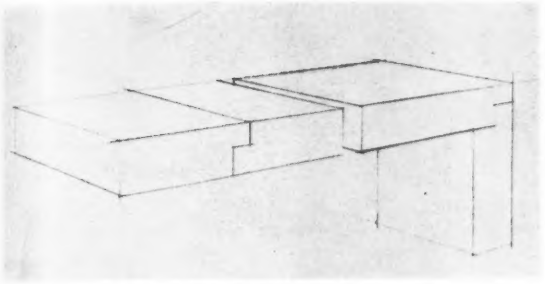


Figure 4.

from the corner of two faces of the board. The two (2) illustrations listed as #3 show this difference.

Figure #4 illustrates two common applications of the use of rabbitted boards while drawing #8 in Figure #2 shows the combination of a rabbitted and a plowed board used together.

All persons who have an interest in old tools and implements find the pages of early tool advertisements and catalogues particularly fascinating. One such tool advertisement which is undated, was printed by William Storer of New Haven, Connecticut. The type design and ornamental border would indicate an early 19th century date. The text of this single fly sheet which is not illustrated states the following: "I. Hammond, Manufacturer of PLANES for Carpenters, Coopers, Cabinet and Coach Makers. — also — Braces and Bits". About the middle of the page and to the right hand side are listed the following:

"Plows, 1st rate, 8 irons	$7.00
do 2nd " "	6.00
do 3rd " "	5.00
do 4th " "	4.50
Extra for boxing fence	50
Extra for side screws	.50
do screw arm and 8 irons	7.00
do box fence	7.50
do side screws	8.00
do solid box	8.00
do do side screws	8.50

You will notice that the prospective plow purchaser had four "rates" to choose from. This selection would have been based on the requirements of the particular job to be undertaken and the pocket book of the craftsman since attachments such as "arms" and "fences" were desirable and necessary.

The 1884 illustrated tool catalogue of the Sargent and Company, New York and New Haven, Connecticut, lists several plow plains and their descriptions. Unfortunately, the illustrations are undecipherable in complete detail. The four plows on page 760 appear to be very similar to the tools I show in figures #6 and #8. Number 230 was illustrated with the caption "Applewood Screw Arms, or Slide." A description then followed:

No. 230, Wood Stop Single Plate, 4 Irons, each 3.00
No. 231, Wood Stop Boxed or Plated Fence
Single Plate, 4 Irons ..... each 3.25

These show a great similarity to the author's tool illustrated in figure #8.

Plows numbers 232 and 234 are illustrated with the following notations:

No. 232, Screw Stop
Single Plate, 8 Irons ..... each 4.50
No. 233, Screw Stop Boxed or Pl ted Fence
Single Plate, 8 Irons ..... each 4.85
No. 234, Screw Stop Solid Handle
Single Plate, 8 Irons ..... each 5.50
No. 235, Screw Stop Solid Handle Boxed or Plated Fence Single Plate, 8 Irons ..... each 5.80

Number 232 was similar to figure #6 except the arms are screwarms and number 234 to figure #8. Cut plainer.

Number 244 was illustrated with the caption: "Boxwood Screw Arms and Screw Stop, with Side Stop." The following was noted below:

No. 242 Single Plate, 8 Irons ..... each 5.00
No. 243 Boxed Fence
Single Plate, 8 Irons ..... each 5.25
No. 244 Boxed Fence
Best Plate, 8 Irons ..... each 5.60
No. 244 ½ Applewood, Polished
Best Plate, 8 Irons ..... each 6.50
No. 245 Solid Boxwood, Polished
Best Plate 8 Irons ..... each 8.00
No. 245 ½ Solid Rosewood, Polished Boxed Fence Best Plate, 8 Irons ..... each 8.00
Plows with Skate Iron Pattern
Plates ..... extra 1.00
Plows with Steel Facing on
Fence ..... Extra .50
Boxwood Plow Arms, Complete ..... Per Pair

On page 761, under the heading "CHAPIN'S GROOVING PLOWS," appeared three illustrations and are similar to the tool shown in figure #8. Number 238 was illustrated with the caption: "SOLID HANDLE" "Boxwood Screw Arms and Screw Stop, with Side Stop." The following appeared under the caption:

No. 236, Beech, Handled
Single Plate, 8 Irons ..... each 6.00
No. 237, Boxed Fence, Beech, Handled
Single Plate, 8 Irons ..... each 6.50
No. 238, Boxed Fence, Beech, Handled
Single Plate, 8 Irons ..... each 7.00
No. 239, Boxed Fence, Beech, Handled
Polished, Best Plate, 8 Irons ..... each 7.50

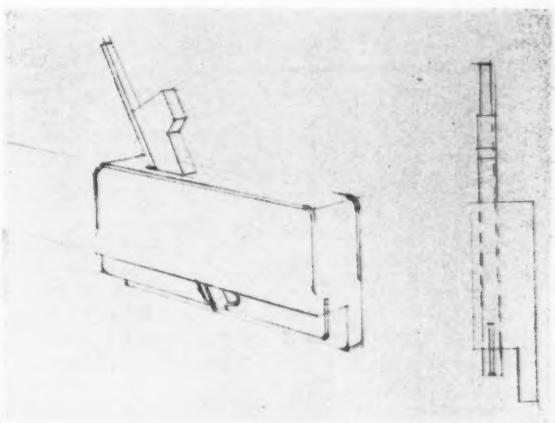


Figure 5.

No. 239 ½ Boxed Fence, Handled, Applewood, Polished, Best Plate, 8 Irons ..... each 8.00
No. 240, Solid Boxwood Handled, Polished Best Plate, 8 Irons ..... each 10.00
No. 241 ½ Solid Rosewood Handled, Boxed Fence, Polished, Best Plate, 8 Irons each 10.00

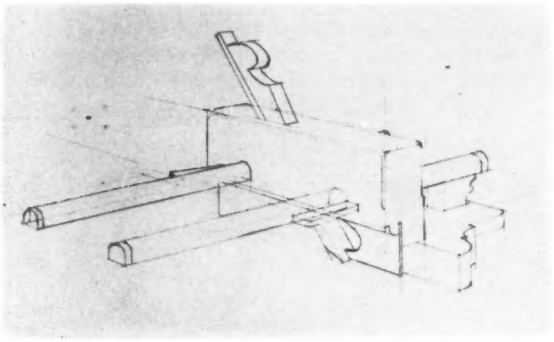


Figure 6.

The second illustration on this page was the same as the tool shown in figure #8 except side adjustment patented V type and was captioned: "Patent V Slide Arm Plow." The following appeared under the heading "PATENT V SLIDE ARM." "With adjusting crew.":

No. 236 ¼, Beech Handled
Single Plate, 8 Irons ..... each 6.00
No. 238 ¼, Beech Handled Boxed Fence
Best Plate, 8 Irons ..... each 7.00
No. 239 ¼, Applewood, Handled, Boxed Fence, Best Plate, Polished, 8 Irons ..... each 8.00

The third illustration, also similar to the tool showing figure #8, except the side arms are slide type with center screw for adjustment, stated: "Patent Adjusting Plow." Then appeared under the heading: "PATENT ADJUSTING." "Solid Handle, Screw Stop, with Side Stop.":

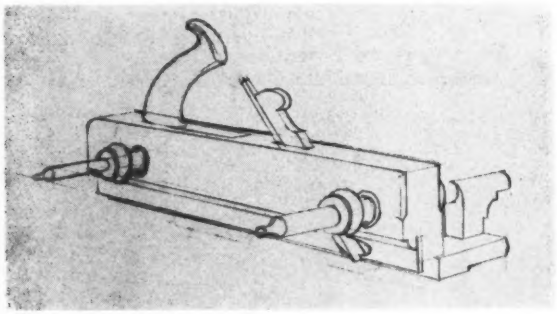


Figure 7.

No. 236 ½, Beech, Handled
Single Plate, 8 Irons ..... each 6.00
No. 238 ½, Beech, Handled, Boxed Fence, Best Plate, 8 Irons ..... each 7.00
No. 239 ¾ Applewood, Handled, Boxed Fence, Best Plate, Polished, 8 Irons ..... each 8.00

It is interesting to note that this catalogue lists the following woods used in plows or parts therein: Applewood, Boxwood, Rosewood, and Beech. In the Midwest

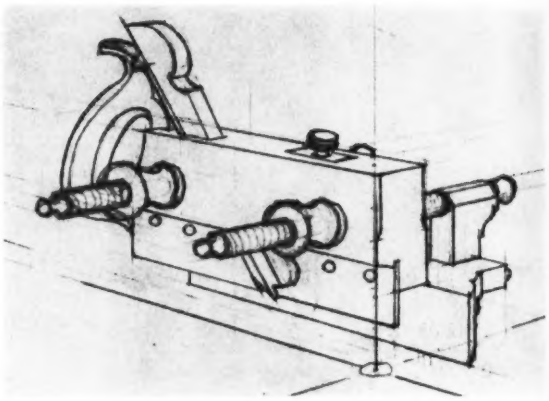


Figure 8.

two other woods quite commonly used were walnut and maple.

The two less expensive plows listed in the Sargent Catalogue, Page 760, have "4 Irons." All other plows have "8 Irons". Eight irons seem to have been the standard number for plows. In my collection there is a complete set of 8 irons in the widths 5/32, 6/32, 7/32, 8/32, 9/32, 10/32, 11/32, 12/32. Before actually measuring the irons it had been assumed that they ran from 1/8″ to 3/8″ but such is not the case. Actually 1/8″ is the thinnest panel edge or tongue which would be practical in wood and the plowed recess should be 1/32″ wider to receive this 1/8″ tongue and allow the panel to go and come with changes in moisture content of wood. Therefore 5/32″ is the narrowest plowing practical.

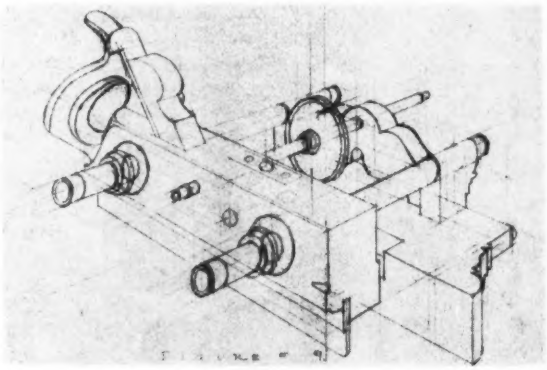


Figure 9.

In considering the logical development of the plow it is quite certain that it started in the simple form of Figure #5. This plow has no adjustments except the set of the iron which is wedged into place and is without handle. The iron was either as illustrated in A or B of Figure #10.

The plow was designed for use with only one iron, that iron with which it was fitted.

The fence is part of the body of the plane and thus not adjustable. This fixed distance from iron to fence dictates that the tool is only usable with one thickness of wood since it was the practice to center the plow. Mer-

The Chronicle

Early American
Industries Association, Inc.

The purpose of the association is to encourage the study and better understanding of early American industry, in the home, in the shop, on the farm, and on the sea, and especially to discover, identify, classify, preserve and exhibit obsolete tools, implements, utensils, instruments, vehicles, appliances and mechanical devices used by American craftsmen, farmers, housewives, mariners, professional men, and other workers.

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LEWIS WIGGINS, *President Emeritus*
1958 - 1960

Communications regarding the contents of *The Chronicle* and back issues should be addressed to the Editors; suggestions for members to John P. Fox; all other matters to the President. Address as here given.

DUES

The annual dues are payable on January 1st and are $5.00. The *Chronicle* is published quarterly and is sent to all members without additional charge. Printed on the press of The *Virginia* Gazette, founded 1736, *Williamsburg, Virginia.*

LEWIS NOBLE WIGGINS

It is with deep sorrow we announce the death of Lewis Noble Wiggins. "Lew" as he was affectionately known to his host of friends, suffered a heart attack in January and had been undergoing treatment at the Good Samaritan Hospital in Los Angeles where he passed away on February 21st. Funeral services were held in Springfield, Illinois, February 24th.

Mr. Wiggins was born in Springfield, Illinois, on May 22, 1876, and spent his early years there. He was educated at the Springfield Public Schools, Michigan Military Academy, the Lawrenceville School in Lawrenceville, New Jersey, and graduated from Princeton University in the Class of 1898.

Following in his father's footsteps, Mr. Wiggins entered the hotel business at an early age,, in which field he became eminently successful. One of his specialties was taking hotels that were not doing well and putting them on their feet. So successful was he in those undertakings that he was known throughout the industry as the "hotel doctor."

The culmination of his long and successful career was the development and establishment of the famous Wiggins' Old Tavern at Northampton, Massachusetts, which he owned and operated for many years.

It was at this same Wiggins' Old Tavern that the Early American Industries Association was formed in 1933, and where many of its early meetings were held. Mr. Wiggins was a charter member of the Association; served as President in 1938-41; was a member of the Board of Directors and in 1958 was elected the first President Emeritus. He has been one of the guiding forces of the Association and his contribution to its growth and progress over the past twenty-six years cannot be estimated.

He was a true student of the early crafts and gave unstintingly of his time and knowledge. Many of our members owe their interest in the association and the joy of collecting to his friendly advice and expert opinion. Many of the well-known restorations have called upon him for advice in their work.

We extend to his widow and family our deep sympathy and share their grief in the loss of a beloved friend.

TOOL CATALOGUE

Definite progress is being made by the Publication Committee toward the preparation of a shoemaker's Tool Catalogue. We have secured the assistance of the United Shoe Machinery Company, Boston, Massachusetts, in identifying the specific use of some of the tools. Their information will be incorporated in the catalogue that will then be multilithed and copies sent to various museums requesting their suggestions and pictures of tools that we have not shown.

We would appreciate receiving from any of our members information of any *unusual* shoemaker's tools that they may have. This may be sent to the Editors of the Chronicle.

Further detail will be forthcoming during the Spring Meeting at Shelburne, Vermont.

PLOWS

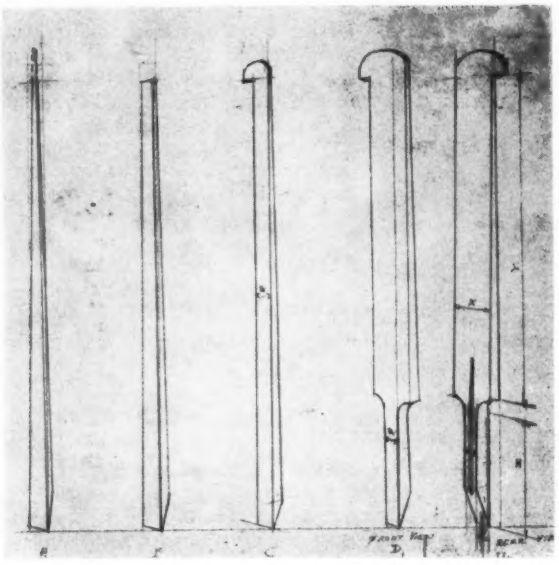

Figure 10.

cer shows photographs of two plows of this type. It is impossible to tell this early plow from the grooving plow of a set of plows made for tongue and grooving edges of boards.

Figure #6, shows the addition of an adjustable fence which moves in and out on two movable arms and can be held at any desired point by means of the wedges. This plow is more versatile and may be used on various thicknesses of boards and can cut grooves in flat sides of boards at distances limited only by the arm's length. Mercer has a photograph of this type of plow, except that it has a handle.

In Figure #7 it will be noted that the arms for adjusting the fence are threaded with wood nuts on each side of the body of the plow. It is much easier to adjust this fence and lock it into the desired position. Also, note that a handle for convenience has been added.

Figure #8 shows development of the fence into the true box type fence, made of two pieces at right angles, the vertical piece being increased in height of guiding face. Also note iron improvement. That is a projection on one side of the iron, and by striking upward on this projection one can move the iron up for a finer cut. The handle has been moved from the top to the rear, lowered and made into a closed or solid handle which gave better control of the tool. A depth gauge has been added so it is now possible to adjust with ease the total depth of groove cut. Wildung has two photographs of this type of Plow.[3]

Figure #9 shows a plow in the author's collection that was probably the ultimate in wood plows of old. This tool will do nothing that the others could not do but does it with more ease and speed. It is a precision instrument made of Rosewood, brass and ivory, very beautifully designed. Casual observation tells one that this plow was designed by a top-notch tool designer who

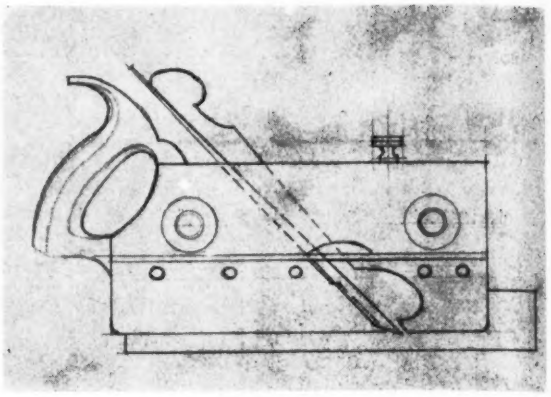

Figure 11.

knew not only the functional requirements of his tool but also possessed a keen sense of artistry. Loving care has been lavished on this instrument, both by its maker and by the craftsman who used it, for after some seventy-five years it is in excellent condition in every respect. Sandusky Tool Co., Ohio, is stamped on the end along with its style #141 and it is assumed that they both designed and built this fine tool.

The owner stamped his name, E. A. Kershner, no less than four times in the end grain on the forward end. He also deeply carved his initials E. A. K. in script on the inside edge between the main body and the fence. Certainly one receives the impression that Mr. Kershner was a proud owner of this fine tool and did not want his tool to walk away and if it did, he wanted all to know who was its rightful owner. If anyone reading this article knows anything about Sandusky Tool Co., Ohio, the Author would appreciate any information.

Figure #10 indicates the important parts of the Plow Iron and their development.

A. Indicates the early iron. It was not as thick or wide as later irons and was usually tapered, sometimes coming almost to a point at the upper end, indicated by dotted lines.

B. This iron is heavier and ends at a more pronounced square end which is easier to tap into place when a better bite into the wood is desired.

C. Has a projection to one side on the end to facilitate raising the iron when desired. This is a decided improvement over irons A and B. Width W or iron is width of groove to be made and each iron had a different width. Therefore the hole in the body of the plow had to be width of largest iron. Smaller irons tended to slip sideways.

D. All 8 irons in a set the same width X for the distance Y, usually 5/8" and fitted snugly into a 5/8" width opening in the body of the plow. A wedge was used to secure iron. The uniform 5/8" dimension of all irons (regardless of dimension W) centered the irons in the tool and lined up the V cut on the rear of the iron with the thin metal guide plate which acted as a stiffener for the iron.

It should be emphasized that the plow's iron projects further outside the main supporting body of the plow than the irons from any other type of plane. It

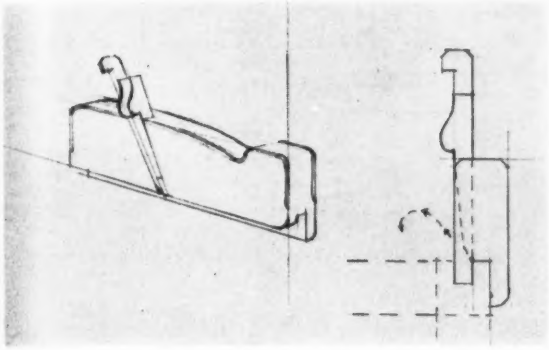

Figure 12.

was for this reason that a thin metal supporting guide was installed behind the iron.

Referring again to Figure #10, the width W is the width of the groove the iron is to plow and the length Z is equal to the total projection of the iron below the body of the plow and determines the maximum possible depth the iron can plow. Drawing D2 shows the back of the same iron. Note the V groove which receives the front edge of the trailing metal guide. This keeps the iron from moving sideways and reinforces it as that extreme pressure as experienced in the working of hard woods cannot force the iron backward and thus cut too deep or shatter.

It should be borne in mind that there are dangers inherent in the placing of tools in chronological order from its construction and design. It must be kept in mind that the early tools were rather crude in design and construction but this does not mean that all tools crude in design or construction were made early in the plow's history. Actually, some manufacturers continued to make the early type of tool quite late in the plow's history. They were cheaper to build and therefore had a ready market for the craftsman with limited means; for the others there were better and more costly tools available. Thus tool-makers continued making earlier models of tools along with their latest improved models. A tool can be described as belonging to the early, middle or late types, but to actually be sure it was built in the early, middle or late period would take considerable detective work and most likely could not be proved. A tool must be carefully documented to prove its exact date of manufacture. Unfortunately, very few tools are documented, as craftsmen were more interested in developing their skills, taking a great pride in their craftsmanship.

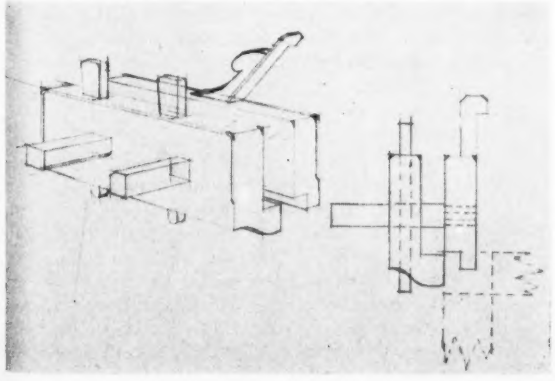

Figure 13.

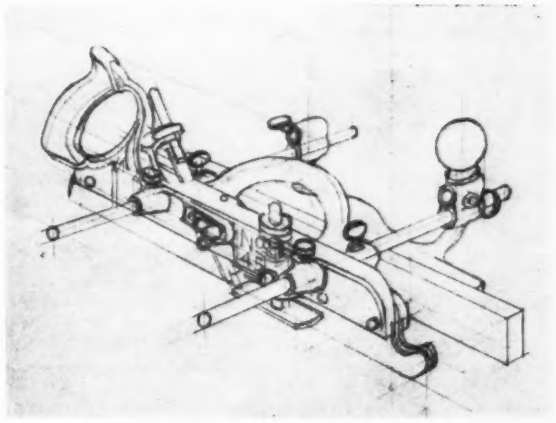

Figure 14.

Roubo illustrates a plow in Figure #1 of plate 18 under the heading "Proper Tools for Joints and for Gluing Kinds of Wood." The tool shown is reproduced in Figure #12. This French plow (Roubo does not call it a plow) is very interesting when compared to the American plow of the same type, Figure #5. The French plow is more graceful, decorative and refined. First, the body is curved in such a way in the rear that it makes an easy hand grip when pushing. Second, the top of the plow body gracefully dips down as it goes forward, then raises suddenly and curves over to the front end making a very beautiful and practical front hand rest for the left hand. Third, a wedge which holds the iron in place is also gracefully curved and projects to the side making it easier to hit up with a small wood mallet for the purpose of releasing the iron; also the top of the wedge is square to receive a blow for setting the wedge. Fourth, the iron is rectangular with two corners beveled off a practical shape for receiving a blow on top to set the iron deeper. Fifth, there is no metal extension of body of plow to reinforce cutting iron as in the American plows. In this French plow the wood body is extended downwards behind the iron for reinforcing and is the same width as the iron. In front of the iron, the body has also been extended downwards to just short of the cutting depth of the iron. The front edge of the extension is rounded so that it will ride easily over any unexpected rough or torn wood grain.

The illustration B of Figure 12 shows the cross section of the plow of A. (The view is from the front; Roubo's cross section, Figure 2 of plate 18 is a view from the rear). The dashed outline shows the two possible positions of wood being plowed and the solid outline shows top of iron and wood wedge holding same. The arrows indicate path of shavings.

Figure #38, also from Roubo, is a French Plow comparable to the plow illustrated in Figure #6. The arms are rectangular in shape with one edge of each beveled. This beveled corner prevents an apprentice from putting the fence on backward when reassembly after cleaning, etc. On the American plow the wedges are parallel to the arms, and when the fence is set close to the body of

the plow, it is a problem to back out the wedges. In the French plow the wedges are at right angles to the arms and project below the fence. They are thus easy to tap up when it is desired to loosen the fence. It is also easier to tighten the wedges in the French plow without disturbing the setting of the fence as tapping the wedges never tends to slide the fence along the arms. The American plow most likely required a small block of wood as a gauge between fence and body to prevent disturbing the fence setting when the wedges were tapped.

Figure #37 of Roubo is a cross section of this plow and is reproduced in B of Figure #13. The two possible positions of a board being plowed are shown in dashed lines and the outline of the wedge to hold the fence tight on arm is shown in solid lines. All additions have been made in an effort to clarify the drawings.

In closing Figure #14 indicates the last advancement of the plow at the time of steel hand tools. This development before the invention of any present day power tools, takes the plow out of the Plow Plane class and makes it a combination Plow Plane, Rabbit Plane,[5] Fillister Plane,[6] Pattern Plane,[7] Banding Plane,[8] Hollow Plane,[9] Convex[10] or Round Plane as well as an infinite number of Moulding Planes.[11] This is quite an order for one plane but it successfully met the requirements. If power tools had not come along after this final development it would today be the most popular and versatile tool the craftsman ever had put into his hands.

The Stanley #45 typifies this last step in the plow's long history. You will note it is an all metal but light tool (with many improvements for ease of adjustment and changing) that can be altered with speed into all of the above mentioned planes. It could and did successfully do the work of all the above planes as well as the work of its great, great, great grandfather, the original plow as shown in Figure #5.

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1. Henry C. Mercer Book "Ancient Carpenter Tools." Page 124 tools A and B. (1951).
2. Henry C. Mercer Book "Ancient Carpenter Tools." Page 124 tool C. (1951).
3. Frank H. Wildung book "Woodworking Tools at Shelburne Museum." Page 19, Photograph No. 22. (1957).
4. Mercer "Ancient Carpenter Tools." Page 121.
5. Mercer "Ancient Carpenter Tools." Page 122.
6. Wildung "Wookworking Tool." Page 24 Nos. 14 and 15.
7. Mercer "Ancient Carpenter Tools." Page 126.
8. Mercer "Ancient Carpenter Tools." Page 129.
9. Mercer "Ancient Carpenter Tools." Page 130.
10. Mercer "Ancient Carpenter Tools." Page 131 & Page 132.

Publication of Interest

Land of Plenty: This pamphlet was published in 1959 by the Farm Equipment Institute, Chicago, Illinois. The Editors have carefully considered this interesting publication, and recommended it to our members because of several factors. The pamphlet deals briefly with techniques and tools relating to agricultural pursuits of soil preparation, planting and cultivating, harvesting, hay, and forage specialized equipment in farming and finally the application of motor and tractor power to our agricultural heritage. The publication includes sixty-three (63) pages and of necessity must treat such a broad scope of interest

Continued on page 16

THE SIXTH SENSE

By Ralph Hodgkinson

In the old saying, "It's a poor workman who blames his tools," there is more meaning than meets the eye. For instance, we can read between its words that the excellent workman refuses to use tools unworthy of his skill, thus eliminating any need for "blaming his tools." We can also read the further meaning that the truly gifted craftsman can often perform well, even with tools of inferior quality. In doing this, he calls upon many important parts of his "sixth sense." As an example, let's look at the expert cabinetmaker using so simple a tool as a plane.

First, he will not attempt to use the plane unless its iron is as keen-edged as it can be, and rigidly fixed in its proper position. A glance at the edge, a simple testing with his thumb, or a single stroke over the surface of the wood tell him whether the tool is worthy of his use. If so, he uses it. But precisely at the best time for resetting or sharpening, he senses this, — and stops to put it in its best form again. Further use would not be worth the effort, and would leave a poor surface. Less would waste his time and iron. He senses, or otherwise "knows", the right time for this particular plane, the type wood, and the planing job he is doing. How long should a plane iron be used before sharpening? No one can answer this in words or figures, not even the old master cabinetmaker. But, given a plane and a piece of wood, he could answer it in deeds.

Then there is the way in which he used the plane. It is usually thought that this tool is simply pushed along the surface of the wood. Not so, says the skilled craftsman. The weight of the plane produces too tiny a pressure to make it cut, and this tool will *not*, of its own accord create a straight or flat surface. Slight extra pressure on the toe of the plane is required at the start of the stroke, but this must change quickly yet evenly to a uniform, overall pressure during the main portion of the stroke, followed by extra pressure (but not *too* much) on the heel of the plane at stroke's end. All this is accomplished in less time than it takes to tell, with superb control and accuracy. Too fast for conscious thought, it is made possible only by that combination of subsconscious sensitivities which we have dubbed the "sixth sense." Yet it is this intangible power only which makes possible that superbly smooth-to-the-touch surface which no amount of sandpapering can ever achieve.

It is also commonly believed that bench planes are pushed straight ahead, the sides parallel to the motion, and the cutting edge at right angles to it. This is true only with the plane in the hands of a novice, an insensitive workman, or when the grain of the wood is remarkably straight. There is a "best" angle, between the cutting edge and the direction of the grain. This angle produces the proper "skew" cut which slices a cross-grain, whereas a right-angle approach would tear it. (Note the swept-back permanent angle into old rabbet planes, especially those for chamfering panel edges which have to cut cross-grain some of the time, as illustrated in

Continued on page 16

Early American Industries
From The Collection of the Union Fork Hoe Co.

By Edward Durell

BABY WALKERS

Perhaps you could not call a baby walker a tool but it certainly isn't a toy and I am sure in the pioneer days, when baby sitters were many miles away and mother needed both hands, both feet, and a good head to accomplish each day the myriad of things she had to do herself, that baby walkers or tenders were devised, developed, and made by father for everyday use. I am showing two from the collection of The Union Fork and Hoe Company, Columbus, Ohio.

Plate 1.

Plate 1 shows a type that is probably still in use. This old one has indications that it was made in a small shop for resale because each ring is cut from a single board and the bottom one would have required a board 28 ½" wide. The top ring, through which the toddler was inserted, is 7 ¾" inside and the botton ring 28" in diameter outside. Height from floor to top of ring was originally 19". It had four casters but only one remains. They had been blocked up one inch, probably to compensate for the child's growth. The two rings are partially covered with tin, but I am sure they are repairs as the upper ring would have had to be padded or a heavy jacket worn by the baby to protect it from the rough edges! The spindles are pine and appear to have been hand shaved. Plate 1A illustrates the position of the baby in the crawler. We have had this item for 25 years (before I kept records) so we do not know when, or from whom it was acquired.

Plate 2 illustrates an unusual type; perhaps unique. The design was possibly conceived by the maker from the devices used by the farmer to furnish power for grinding, etc. You know the type wherein the farmer hitched his horse or ox to a pole as the animal walked around and around he made the vertical post turn which,

Plate 1a.

if properly geared, would grind corn. This device kept a toddler in a limited area. The base originally had two small holes at opposite corners so it could be fastened to the floor. Height of arm is 15". The iron three-quarter ring is hinged at the outer end and could be swung open to receive the youngster. The inner end of the ring is

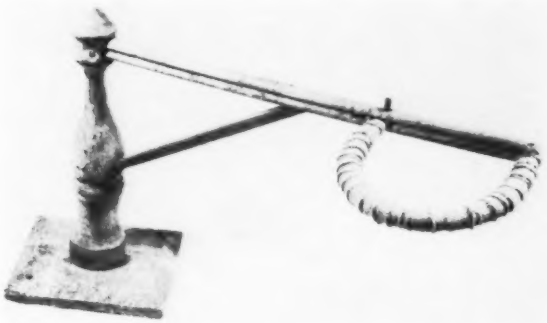

Plate 2.

fastened to the swinging arm by a wooden pin. The cloth tape was not, in my opinion, on the iron ring originally.

When not in use the arm, its support, and the top of the spindle could be removed for storage and the balance of the spindle and the base could be left fastened to the floor.

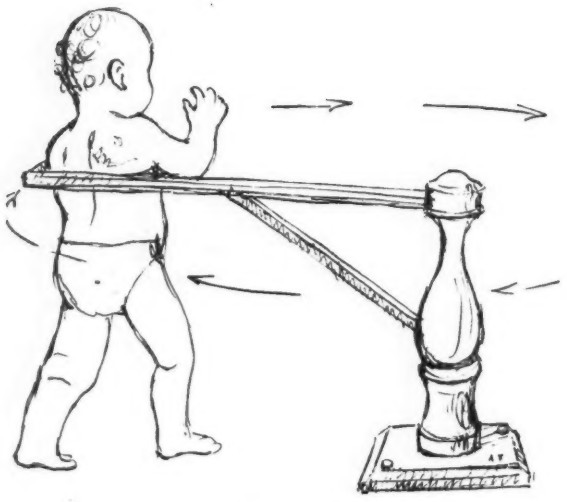

Plate 2a.

The wood is burly maple. The two parts of the spindle are lathe-turned but the bottom of the top piece is rounded by whittling to fit into the hollowed out bottom piece. There is a ¾" pintal in the center of the bottom piece to fit the hole in the top piece.

Handmade nails fasten the base to the spindle. One of the two screws used to fasten the supporting brace is, I believe, original. It is of the old style blunt end type. Plate 2A illustrates the method this device was used.

The device came from central New York State and was secured in 1958. I would date it in the early 1800's.

Sausage Stuffers

The knowledge of how to prepare food for preservation and storage was most necessary to our early settlers and has survived in many of our rural areas today. The stuffing of ground meat into a thin skin of small diameter must have occupied much time, and from its very consistency, required considerable strength.

I have illustrated two types from the collection of the Union Fork and Hoe Company of Columbus, Ohio.

Plate 1 shows the simplest type wherein the meat is packed by hand in a tin cylinder measuring 3" by 8 ¼" which has a 4 ½" spout. The skin, which is to receive the meat, is next slipped over the spout which tapers from 1" to ¾" at the discharge end. The hand-carved wooden plunger is then inserted in the top of the cylinder; the large exposed end of the plunger is held against the chest;

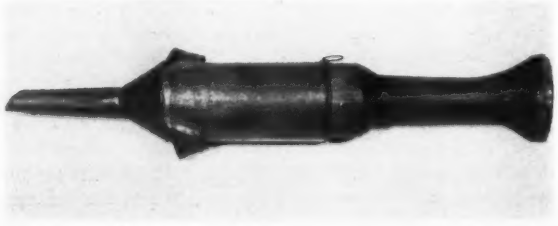

Plate 1.

Plate 1a.

and, with the fingers inserted in the half cuffs on each side of the cylinder, the meat is forced out through the spout into the skin. Plate 1A illustrates this method.

Plates 2A, 2B, 3A and 3B illustrate two hand powered types of stuffers.

The lever type of hand power is illustrated in Plates 2A and 2B. Plate 2A shows the tin cylinder, which

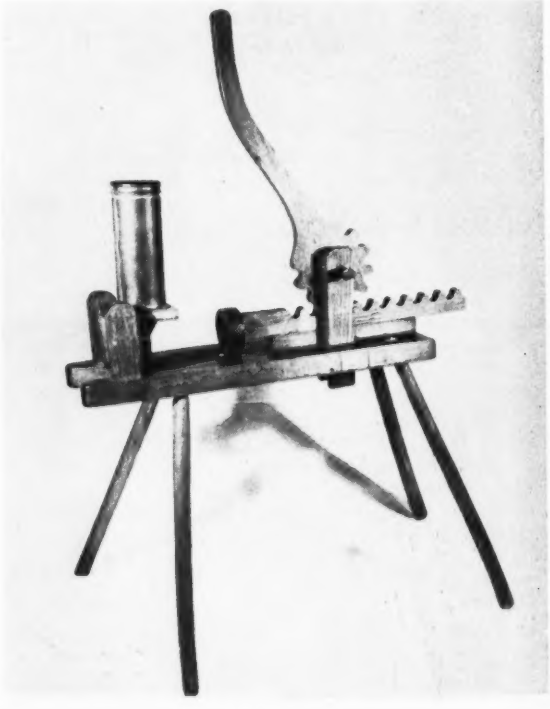

Plate 2a.

measures 12″ by 4″, pivoted to a verticle position ready to receive the ground meat. Next the operator pivots the cylinder to a horizontal position and inserts the plunger in the open or top end of the cylinder. By moving the lever to the left the meat is forced out of the

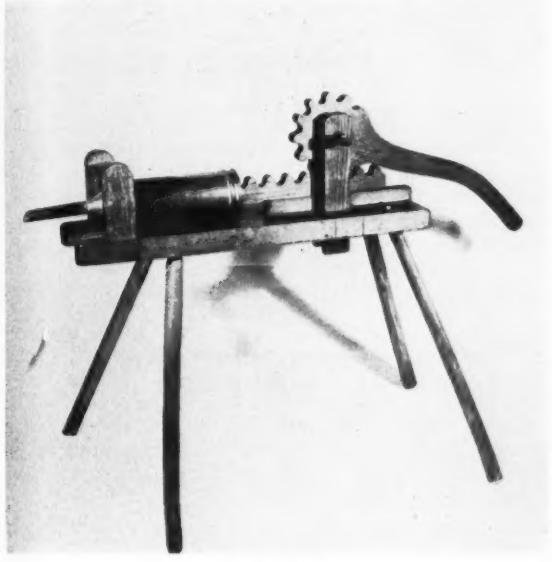

Plate 2b.

cylinder into the skin that has previously been slipped over the spout.

Plate 2B shows the position of the device at the end of the operation. The lever has been pressed down, by being moved from right to left, which has forced the

Plate 2c.

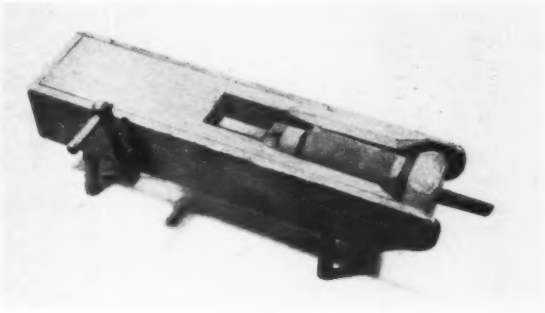

Plate 3a.

plunger through the full length of the cylinder and thus has driven the ground meat out the spout (1″ in diameter) into the skin. This is illustrated in Plate 2C. The tremendous leverage derived from this device would allow even a small child to have performed, and probably did, the work of an adult.

The top of the bench is 23″ above the floor. The wood is oak, held together by wooden pegs. Wooden wedges are used to hold the legs in the holes of the bench. The lever measures 22″ and has 8 teeth on the pinion end of the lever to match the 10 notches or grooves in the rack. The flanges of the tin cylinder are fastened to the pivoting wooden saddle by screws and washers. One appears original and is of the old blunt type. This device was once owned by EAIA member Albert Boni, who believes he picked it up around New Hope, Connecticut. We acquired it in 1951 and I would date it before 1850.

Plate 3A shows a table type stuffer of the hand crank power design. Photographs show cylinder loaded, pivoted to horizontal position, plunger inserted and everything ready for the operator to turn the crank which will drive the plunger forward and force the meat out.

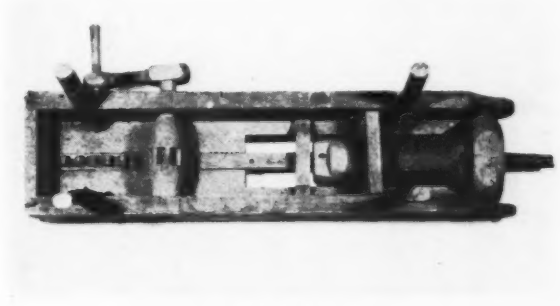

Plate 3b.

Plate 3B shows the underneath side of 3A, disclosing the rack and pinion design. As the crank is turned, the spool gear, with 7 sockets or holes cut into it, engages the 12 wooden teeth of the rack and the plunger moves forward. The individual teeth are handmade and inserted in the rack bar. They mesh nicely into the spool gear even after these many years. Cylinder is 8 ½″ by 3″. Spout 6″ by 1″.

The device is made of pine and oak, measures 29 ½″ long, 7″ wide and 9″ above table top. Corners are not mortised but are put together with wooden pegs and handmade nails. The crank handle grip rotaters in use.

We have no record of where, when, or from whom this implement was acquired. I believe it was made by a farmer for his own use and might be 1850.

The Chronicle and Mr. Durell are deeply grateful to Mr. Alexander Farnham, a member from Stockton, New Jersey, for the line drawings above shown which illustrate so well the use of the various devices.

HELP WANTED! ! ! !
MALE AND FEMALE

To paraphrase —

"Never have so few accomplished so much
with so little help"

I speak of our editors, past and present — and I have known and bled with all but one of them. And the universal cry from each has been "If only our members would tell what they know ,our magazine would bulge with valuable information!"

Very few of us have had anything appear in The Chronicle and I am not proud of my record in that department, but I am determined to do better.

Only a small percentage of our members can qualify as "experts" and a lesser number can write as the result of detailed and exhaustive research. However, nearly all of us to have some choice, unusual or ingenious tools or devices.

Won't you share these items with the rest of us? You can do this by having photographs made and writing what you know and/or were told about the item — where it came from, the date made or patented and how it was used.

To demonstrate what I mean I have submitted two short articles, with photographs, on items from the collection of The Union Fork and Hoe Company. I think the devices are sufficiently interesting and unusual to share with others. I have told all I know about them and the editors have thought well enough of my efforts to publish them in this issue. Undoubtedly others have baby walkers and devices for stuffing sausage into skins. Let's see them and the other things you prize.

Our editors must reserve the right to reject any article because the subject does not fall within our field or has been covered in an earlier issue of which you may not have a copy. The editors also will feel free to rewrite the stories to condense or simplify. I expect them to put their fine hands to my efforts. Don't be discouraged. Just try again. You will have fun writing about your treasures and all our members will enjoy seeing and learning about them.

Yours for an ever better Chronicle.

EDWARD DURELL

Publication

Continued from page 12

briefly. However, the text is to the point and many of the illustrations of agricultural implements will be of particular interest to members of the E.A.I.A.

This publication can be secured from the Farm Equipment Institute, 608 South Dearborn Street, Chicago 5, Illinois. The price is 25c per copy or 20c per copy in quantities of one hundred or more.

The Sixth Sense

Continued from page 12

Mercers "Ancient Carpenter Tools" and noted in Mr. Brown's article in Vol. XII Number 3 of the Chronicle). Under the firm but sensitive guidance of the fine craftsman, the plane seems to swing automatically to this "best" angle for each part of the grain flowing under the tool during each stroke. Even while all this subconscious cooperation with the wood goes on, the "sixth sense" performs still another minor miracle. It keeps the surface being created flat, straight (or curved if required) at its boundaries, and perpendicular to (or at any desired angle with) the other faces of the wood. So accurate is this control, that the customary checking with the try-square and straight-edge is often more of a ritual than a necessity.

In still other ways the old time master cabinetmaker's extra sensory powers appear. One is apparent when we consider his intimate knowledge of the properties of various woods, both domestic and imported. Somehow, he understood not only how each responded to different types of tools, but also the best usage of each wood in terms of strength, appearance, and the ability to withstand the wear and atmospheric conditions to which it would be subjected.

Even more remarkable was his ability to estimate accurately the moisture content of a given piece of wood. Today, this condition of the wood can be laboratory measured with great accuracy. But he, like other craftsmen of his day, probably had not even so simple a laboratory instrument as a thermometer! His laboratory was in his head, his heart, and his hands, or in the vague combination of these called "knack." Yet it is well known how effectively he made use of the tie-in between moisture content and shrinkage of woods in making those still-tight joints which have already stood the strain of a century or more of use. The simplest example is the driven joint between chair leg and rung, for which he used dry wood for the rungs and somewhat less dry pieces for the legs. If the difference in their moisture contents were just right, the joint became tighter as the leg continued to dry and shrink in use. Too much difference would cause the leg to crack as it shrank across the unyielding rung. The key here is the phrase "somewhat less-dry," used above. He knew exactly what this meant for many types of wood, although he had no instruments, little of what we call technical knowledge today, but just his experience and "sixth sense" to guide him.

Perhaps this is a good point at which to stress the fact that this "sixth sense" is something above and beyond more experience. It cannot be "taught." Neither can it be learned by mere repetitious practicing. It is absorbed in useful form only by those whose whole mental, physical and emotional sensitivities are separately and jointly attuned to *all* the stimuli which experience makes available. Once absorbed, however, it gives the craftsman that wonderfully complete freedom to express himself in his medium. Elusive though this "sixth sense" may be, it is still the most important part of those small differences which distinguish the master craftsman from the good workman.